

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-54. (Canceled)

55. (Currently Amended) A method, comprising:

(a) a contact center providing a first queue first and second sets of resources to service work items, wherein the work items in the first queue are serviced by a first set of resources comprising a plurality of members the first and second sets of resources each comprising a plurality of members;

(a)(b) a processor receiving a first work item and a second work item into the first queue;

(b)(c) the processor monitoring, by a processor, the first queue for a plurality of wait times associated with of selected enqueued work items in the first queue, an occupancy of a selected the first queue, a number of available members of the first set of resources to service enqueued work items in the first queue, the types of enqueued contacts in the first queue, the priorities of enqueued contacts in the first queue, and anticipated workload levels for the members of the first set of resources;

(d) based on the results of the monitoring step, the processor determining, by a processor and based on the results of the monitoring step, that a-the first enqueued work item, in the first queue, but not a second enqueued work item, cannot be serviced by the first set of resources;

(e) based on the results of the monitoring step, the processor determining that the first enqueued work item, in the first queue, must be put up for bid to meet a predetermined business policy, objective, and/or goal for a type of contact corresponding to the first and selected enqueued work items;

(f) based on the results of the monitoring step, the processor determining that the second enqueued work item, in the first queue, can be serviced by the first set of resources to

meet a predetermined business policy, objective, or goal for a type of contact corresponding to the second enqueued work item;

(e)(g) the processor determining, by a processor, the times to initiate and complete the bidding process, wherein the time is a function of an estimation of when the predetermined business policy, objective, and/or goal will be violated in the absence of servicing of the first work item;

(d)(h) the processor requesting, by a processor, a first member and a second members of the second set of resources to submit a bid to service the first work item, but not the second, work item;

(e)(i) the processor receiving a first bid, from the first member and a second bid from the second members first and second bids, respectively, to service the first work item;

(f)(j) the processor comparing, by a processor, the first bid and second bids;

(g)(k) based on the comparison, the processor selecting, by a processor and based on the comparing step (g), the first bid; and

(h)(l) the processor assigning, by a processor, the first work item to the first member for servicing.

56. (Currently Amended) The method of claim 55, wherein the first set of resources comprises a plurality of resources internal to a contact center, wherein the second set of resources comprises a plurality of resources external to the contact center, wherein the work item is a contact from a customer, and wherein the first work item is placed into in a second queue of multiple work items for the second set of resources.

57. (Currently Amended) The method of claim 55, wherein bids are requested only during a first operational mode in which bidding is performed and not in a second operational mode in which bidding is not performed, the first and second operational modes being temporally are discrete from each other.

58. (Currently Amended) The method of claim 55, wherein the monitoring step (be) and determining step (ed) comprise the substeps:

the processor monitoring, by a processor, at least the first one queue of work items, the at least one first queue of work items corresponding to a first set of internal resources for servicing work items in the at least one queue; and

~~the processor applying, by a processor, the following rules to the results of the monitoring step determining when a predetermined workload level exists in the at least one first queue, performing steps (d) through (i); and~~

~~when a predetermined workload level does not exist in the at least one queue, not performing steps (d) through (i).~~

59. (Currently Amended) The method of claim 58, wherein the predetermined workload level exists when there is a likelihood that a service goal for at least one work item in the at least one first queue will not be satisfied in the absence of bidding.

60. (Currently Amended) The method of claim 59, wherein the predetermined workload level exists when a queue position in the required first queue is less than a number of work items ahead of the queue position in the required first queue.

61. (Currently Amended) The method of claim 55, further comprising:
determining a number and identities of work items to be presented for bidding to the second set of resources.

62. (Currently Amended) The method of claim 55, wherein the selecting step (hk) comprises:

comparing the received bids with a maximum acceptable bid.

63. (Currently Amended) The method of claim 55, wherein the selecting step (hk) comprises:

determining, for each bidding resource in the second set of resources, a composite value reflecting a plurality of a work item value, a resource value, and a bid; and

comparing the determined composite values to select a resource member from the second set of resources to service the first work item.

64. (Currently Amended) The method of claim 55, further comprising after the receiving step (f):

determining whether or not a workload level for the contact center requires the first work item that is the subject of the received bids to be serviced by a resource member in the second set of resources.

65. (Currently Amended) The method of claim 55, further comprising after the receiving step (fh):

displaying at least one of the first and second bid and/or information associated with the at least one of the first and second bids to at least some resourcesone member in the second set of resources; and

receiving, from the at least some resourcesone member, an additional bids after the displaying step.

66. (Currently Amended) The method of claim 65, wherein at least some of the resources are human agents, wherein ~~the~~members of the first set of resources are employees of a contact center, wherein the members of the first set of resources are subscribers to an enterprise network defined by the contact center, wherein the members of the second set of resources are not employees of the contact center, wherein the members of the second set of resources are not subscribers to an enterprise network defined by the contact center, and wherein steps (d~~g~~)-(h~~l~~) are performed when ~~a different~~the first set of resources is unable to service the contact as required by contact center policies, objectives, and/or goals, the ~~different~~first set of resources being employees of the contact center and subscribers of the enterprise network.

67. (Previously Presented) The method of claim 55, wherein the bid is at least one of a monetary service fee, a service time, an opportunity cost to the contact center for servicing the work item, and an overhead cost to the contact center for servicing the work item.

68. (Previously Presented) The method of claim 55, wherein a plurality of work items are put out for bid and further comprising:

dynamically varying a bidding time for each of the plurality of work items.

69. (Currently Amended) The method of claim 55, wherein at least one of steps (e~~g~~) and (d~~h~~) comprise:

determining a required queue position for each work item in ~~a selected~~the first queue, wherein the required queue position indicates that a service-time goal of the respective work item_i is met only when the respective work item_i is serviced by a one of the next “N_i” resources in the first set of resources to become available to service work items in the ~~selected~~first queue;

generating a representation of a queue, the representation reflecting ~~the a~~ required queue positions for the work items in the ~~selected~~first queue; and

for each queue position “N_f” in the queue representation, summing the work items in queue positions 1 to N_f; and

for each queue position “ N_i ”, applying the following rules: when the sum is greater than N_i , performing steps (eh) – (hl)
, and

— when the sum is not greater than N_i , not performing steps (e) — (h).

70. (Previously Presented) The method of claim 69, wherein a number by which a sum exceeds N_i is a number of work items to be put out for bid and an initial queue position, in the representation of a queue at where the sum is greater than N_i , is used to determine a time available for the bidding process to be completed.

71. (Previously Presented) The method of claim 55, wherein a number of work items to be put out for bid is a function of anticipated or expected future work item surplus levels and wherein identities of which work items are to be put out for bid is a function of at least one of relative values of work items, skill levels of available resources in the second set of resources, and types of work items.

72. (Currently Amended) The method of claim 55, wherein steps (eh) and (f1) comprise:

publishing on work stations of the first member and the second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, providing the bidder with an indication whether or not his bid is less than, greater than, or equal to an acceptable bid threshold.

73. (Currently Amended) The method of claim 72, wherein the acceptable bid threshold is a function of one or more of a value of the work item that is the subject of the bid, a cost for a member of the first-second set of resources to service the work item that is the subject of the bid, and an amount of surplus work items to be serviced.

74. (Currently Amended) The method of claim 55, wherein step (gk) comprises the sub-steps:

(G1K1) calculating, respectively, first and second composite values for the first and second members based on a plurality of a value of the first work item, the respective bid, and a skill level, experience level, and/or value of the member; and

(G2K2) comparing the first and second composite values.

75. (Currently Amended) The method of claim 55, wherein steps (gk) and (hl) are performed by mapping a resource value of the first member against a resource value range, each resource value range having a different acceptable bid threshold.

76. (Currently Amended) The method of claim 55, wherein steps (gk) and (hl) are performed by mapping a work item value of the first work item against a work item value range, each work item value range having a different acceptable bid threshold.

77. Cancelled

78. (Currently Amended) A contact center, comprising:

a first queue to hold a first work item and a second work item, wherein a first set of resources services the work items in the first queue, wherein the first set of resources comprising a plurality of members;

a second queue to hold a work item, a and-second sets of resources to service work items in the second queue, the first and-second sets of resources each-comprising a plurality of members;

a memory operable to store one or more computer executable instructions;

a processor in communication with the first queue, the second queue, and the memory, the processor operable to execute the computer executable instructions, wherein the processor executes the computer executable instructions to execute:

a workload monitoring agent operable to monitor a plurality of wait times of selected-enqueued work items in the first queue, an occupancy of in the first queue-selected queue, a number of available members of the first set of resources to service enqueued work items in the first queue, the types of enqueued contacts in the first queue, the priorities of enqueued contacts in the first queue, and anticipated workload levels of the first set of resources to service enqueued work items in the first queue;

the workload monitoring agent operable to determine, based on the results of the monitoring operation, that a-the first enqueued-work item, but not-a the second enqueued-work item, must be put up for bid to meet a predetermined business policy, objective,-and/or goal for a type of contact corresponding to the first work item and selected-enqueued work items;

the workload monitoring agent operable to configure the times to initiate and complete the bidding process, wherein the time is a function of an estimation of when the

predetermined business policy, objective, and/or goal will be violated in the absence of servicing of the first work item;

the workload monitoring agent operable to send the first work item to a bid item selecting agent;

the bid item selecting agent operable to request first and second members of the second set of resources to submit a bid to service the first work item, but not the second, work item;

the bid item selecting agent operable to receive a first bid, from the first member and a second bid from the second members first and second bids, respectively, to service the first work item;

the bid item selecting agent operable to compare the first bid and second bids;

the bid item selecting agent operable to select, based on the comparing operation, the first bid; and

the bid item selecting agent operable to assign the first work item to the first member for servicing; and

the bid item selecting agent operable to queue the first work item in the second queue for the first member.

79. (Currently Amended) The contact center of claim 78, wherein the first set of resources comprises a plurality of resources internal to a contact center, wherein the second set of resources comprises a plurality of resources external to the contact center, and wherein the work item is a contact from a customer, and wherein the first work item is in a queue of multiple work items.

80. (Currently Amended) The contact center of claim 78, wherein at least some of the resources are human agents, wherein the members of the first set of resources are employees of a contact center, wherein the members of the first set of resources are subscribers to an enterprise network defined by the contact center, wherein the members of the second set of resources are not employees of the contact center, wherein the members of the second set of resources are not subscribers to an enterprise network defined by the contact center, and wherein the configure, request, receive, compare, and select operations are performed when a different set of resources is unable to service the contact as required by contact center policies, objectives, and/or goals,

the different set of resources being employees of the contact center and subscribers of the enterprise network.

81. (Currently Amended) The contact center of claim 78, wherein ~~at least one of the compare and select operations comprise the sub-operations~~ ~~the workload monitoring agent is further operable to:~~

determine a required queue position for each work item in a selected queue, wherein the required queue position indicates that a service-time goal of the respective work item_i is met only when the respective work item_i is serviced by a one of the next “N_i” resources in the first set of resources to become available to service work items in the selected queue;

generate a representation of a queue, the representation reflecting the required queue positions for the work items in the selected queue; and

for each queue position “N_i” in the queue representation, sum the work items in queue positions 1 to N_i; and

for each queue position “N_{i,f}”, ~~apply the following rules:~~ when the sum is greater than N_i, perform the configure, request, receive, compare, and select operations

~~, and~~

~~when the sum is not greater than N_i, not performing configure, request, receive, compare, and select operations.~~

82. (Previously Presented) The contact center of claim 81, wherein a number by which a sum exceeds N_i is a number of work items to be put out for bid and an initial queue position_i in the representation of a queue at where the sum is greater than N_{i,f} is used to determine a time available for the bidding process to be completed.

83. (Previously Presented) The contact center of claim 78, wherein a number of work items to be put out for bid is a function of anticipated or expected future work item surplus levels and wherein identities of which work items are to be put out for bid is a function of at least one of relative values of work items, skill levels of available resources in the second set of resources, and types of work items.

84. (Currently Amended) The contact center of claim 78, wherein the bid item selecting agent is further operable to ~~the compare and select operations comprise:~~

publish on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for

bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, provide the bidder with an indication whether or not his bid is less than, greater than or equal to an acceptable bid threshold.

85. (Previously Presented) The contact center of claim 84, wherein the acceptable bid threshold is a function of one or more of a value of the work item that is the subject of the bid, a cost for a member of the first set of resources to service the work item that is the subject of the bid, and an amount of surplus work items to be serviced.

86. (Currently Amended) The contact center of claim 78, wherein the bid item selecting agent is further operable to the compare operation comprises the sub-operations:

calculate, respectively, first and second composite values for the first and second members based on a plurality of a value of the first work item, the respective bid, and a skill level, experience level, and/or value of the member; and

compare the first and second composite values.

87. (Currently Amended) The contact center of claim 78, wherein the bid item selecting agent is further operable to compare and select operations are performed by mapping map a resource value of the first member against a resource value range, each resource value range having a different acceptable bid threshold.

88. (Currently Amended) The contact center of claim 78, wherein the bid item selecting agent is further operable to map the compare and select operations are performed by mapping a work item value of the first work item against a work item value range, each work item value range having a different acceptable bid threshold.

89. Cancelled

90. (Currently Amended) A computer program product comprising processor executable instructions encoded on a computer readable medium, which, when executed by the processor, causes the processor to perform the following operations:

receive a first work item and a second work item into a first queue, wherein the work items in the first queue are serviced by a first set of resources comprising a plurality of members;

monitor the first queue for a plurality of wait times associated with enqueued work items in the first queue, an occupancy of the first queue, a number of available members of the first set of resources to service enqueued work items in the first queue, the types of enqueued contacts in

the first queue, the priorities of enqueued contacts in the first queue, and anticipated workload levels for the members of the first set of resources; a plurality of wait times of selected enqueued work items; an occupancy of a selected queue; a number of available members of the first set of resources to service enqueued work items; the types of enqueued contacts; the priorities of enqueued contacts; and anticipated workload levels, wherein first and second sets of resources service work items, the first and second sets of resources each comprising a plurality of members;

determine, based on the results of the monitoring operation, that the first enqueued work item, in the first queue, cannot be serviced by the first set of resources; that a first enqueued work item, but not a second enqueued work item, must be put up for bid to meet a predetermined business policy, objective and/or goal for a type of contact corresponding to the first and selected enqueued work items;

based on the results of the monitor step, determine that the first enqueued work item, in the first queue, must be put up for bid to meet a predetermined business policy, objective, or goal for a type of contact corresponding to the first enqueued work item;

determine that a second enqueued work item, in the first queue, can be serviced by the first set of resources to meet a predetermined business policy, objective, or goal for a type of contact corresponding to the second enqueued work item;

configure the times to initiate and complete the bidding process, wherein the time is a function of an estimation of when the predetermined business policy, objective, and/or goal will be violated in the absence of servicing of the first work item;

request a first member and a second members of the second set of resources to submit a bid to service the first, but not the second, work item;

receive a first bid from the first member and a second bid from the second member to service the first work item, from the first and second members first and second bids, respectively, to service the first work item;

compare the first bid and second bids;

select, based on the comparing operation, the first bid; and

assign the first work item to the first member for servicing.

91. (Currently Amended) The product of claim 90, wherein the first set of resources comprises a plurality of resources internal to a contact center, wherein the second set of

resources comprises a plurality of resources external to the contact center, and wherein the work item is a contact from a customer, ~~and wherein the first work item is in a queue of multiple work items.~~

92. (Currently Amended) The product of claim 90, wherein at least some of the resources are human agents, wherein the members of the first set of resources are employees of a contact center, wherein the members of the first set of resources are subscribers to an enterprise network defined by the contact center, wherein the members of the second set of resources are not employees of the contact center, wherein the members of the second set of resources are not subscribers to an enterprise network defined by the contact center, and wherein the configure, request, receive, compare, and select operations are performed when a different set of resources is unable to service the contact as required by contact center policies, objectives, and/or goals, the different set of resources being employees of the contact center and subscribers of the enterprise network.

93. (Currently Amended) The product of claim 90, wherein at least one of the compare and select operations comprise the sub-operations:

determine a required queue position for each work item in a selected queue, wherein the required queue position indicates that a service-time goal of the respective work item_i is met only when the respective work item_i is serviced by a one of the next “N_i” resources in the first set of resources to become available to service work items in the selected queue;

generate a representation of a queue, the representation reflecting the required queue positions for the work items in the selected queue; and

for each queue position “N_i” in the queue representation, sum the work items in queue positions 1 to N_i; and

for each queue position “N_i”, ~~apply the following rules:~~ when the sum is greater than N_i, perform the configure, request, receive, compare, and select operations

~~and~~

~~when the sum is not greater than N_i, not performing configure, request, receive, compare, and select operations.~~

94. (Currently Amended) The product of claim 9493, wherein a number by which a sum exceeds N_i is a number of work items to be put out for bid and an initial queue position_i in

the representation of a queue at where the sum is greater than N_p , is used to determine a time available for the bidding process to be completed.

95. (Previously Presented) The product of claim 90, wherein a number of work items to be put out for bid is a function of anticipated or expected future work item surplus levels and wherein identities of which work items are to be put out for bid is a function of at least one of relative values of work items, skill levels of available resources in the second set of resources, and types of work items.

96. (Previously Presented) The product of claim 90, wherein the compare and select operations comprise:

publish on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder;

when a bid is received, provide the bidder with an indication whether or not his bid is less than, greater than or equal to an acceptable bid threshold.

97. (Previously Presented) The product of claim 96, wherein the acceptable bid threshold is a function of one or more of a value of the work item that is the subject of the bid, a cost for a member of the first set of resources to service the work item that is the subject of the bid, and an amount of surplus work items to be serviced.

98. (Previously Presented) The product of claim 90, wherein the compare operation comprises the sub-operations:

calculate, respectively, first and second composite values for the first and second members based on a plurality of a value of the first work item, the respective bid, and a skill level, experience level, and/or value of the member; and

compare the first and second composite values.

99. (Previously Presented) The product of claim 90, wherein the compare and select operations are performed by mapping a resource value of the first member against a resource value range, each resource value range having a different acceptable bid threshold.

100. (Previously Presented) The product of claim 90, wherein the compare and select operations are performed by mapping a work item value of the first work item against a work item value range, each work item value range having a different acceptable bid threshold.

101. Cancelled